

Exchange Bridge
Over the Providence River
Providence
Rhode Island

HAER No. RI-17

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PHOTOGRAPHS

WRITTEN & DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
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HISTORIC AMERICAN ENGINEERING RECORD

EXCHANGE BRIDGE

RI-17

Location: Over the Providence River
Providence, Rhode Island

UTM: 19.299930.4633020
Quad: Providence

Date of Construction: 1896

Builder/Designer: Norton Iron Company of East Everett, Massachusetts

Present Owner: City of Providence, Rhode Island

Present Use: Vehicular and Pedestrian Bridge

Significance: This is an interesting example of a small-scale bridge that played a role in the late 19th century development of Providence, Rhode Island. It is scheduled for removal in 1985.

Historians: Dr. Patrick M. Malone and Mark McDonough, Slater Mill Historic Site

Transmitted by: Jean P. Yearby, HAER, 1984

When the city of Providence was originally settled by Roger Williams and his followers in the years following his original landing in 1636, lots were originally laid out in long, narrow east-west strips that climbed the face of what was then called "the Neck" (now College Hill). What is now downtown Providence, on the west side of the Providence River, was then a swampy stretch of pasturelands and farms. In the earliest days of Providence, the narrow strip of relatively level land along the east side of the waterfront was adequate for commercial needs, and the small-scale agriculture of the period could be supported primarily on the lands of the Neck. A ford was used to cross the river near the site of the present Weybosset Bridge.

By 1660,, the town had grown considerably. In that year, the first Weybosset Bridge was erected at a cost of 160 pounds, connecting the Neck to Weybosset Point (before subsequent filling operations, this was once a fairly sharp projection from the west shore of the river, with its approximate centerline near the present course of Westminster Street). This early bridge had a rather unfortunate history. It was maintained by the town for a time, but it suffered a long series of problems, and was eventually abandoned and torn down. The exact year of demolition is not clear.

By 1700, the need for a new crossing was becoming critical. Commercial and residential development was proceeding rapidly on the east side of the river. The focus of agricultural activity thus shifted westward to the Weybosset Neck and the pasturelands beyond it. Relatively few farmers, however, chose to live on the west side, so the lack of a bridge created a transportation problem.

In 1704, the Town Council initiated plans for a new bridge. Several years passed before an adequate amount of money could be raised, but the second Weybosset Bridge was finally completed in 1711. Around 1719, this bridge was damaged in a spring flood and replaced by the third Weybosset Bridge, which continued to serve until 1744. All of these early bridges were movable span structures to allow for the passage of sailing vessels. As late as the 1760s, fully-laden vessels commonly went as far north as the foot of Bowen Street. By the time of the construction of the fourth Weybosset Bridge in 1744-46, the city and its agricultural hinterlands were becoming more clearly differentiated. The bridge's importance as a link in a network of farm-to-market communication and transportation was emphasized by the opening of a Market Square at the east end of the new bridge. This began a tradition that did not entirely die out until the removal of the city's produce dealers to the present Providence Terminal Produce Market on Harris Avenue in 1927.

In 1761, the fourth Weybosset Bridge was destroyed by a great storm. Its replacement, the last Weybosset Bridge of the colonial period, was completed in 1764 with funds raised through a colonial lottery.

By 1792, when the sixth Weybosset Bridge was built, new factors were becoming important in the city's development. Throughout the 17th and most of the 18th century, the civic center of Providence was more or less confined to Towne Street (now approximated by South and North Main Streets), running in a narrow strip at the foot of Moshassuck (now College) Hill. By the late 18th century, however, Providence was becoming an important maritime center, creating considerable development pressures along Towne Street and the wharf areas along the east bank of the river. Given a different topographical situation, the city possibly could have expanded to the east, adopting what is now the largely residential East Side as its center. However, the formidable barrier posed by the steep face of the hill rising immediately behind Towne Street (all the more formidable in view of 18th century transportation and communication technology) prevented this eastward expansion, effectively forcing the city to expand across the river and establish what was to become its primary civic center on Weybosset Neck and the surrounding lands. The first bank on the Weybosset Neck was built in 1801 and the first building of the Providence Washington Insurance Company followed in 1802. The Post Office relocated from the east bank the same year, and the move to the west was well underway.

The city's maritime trade never fully recovered from Thomas Jefferson's 1809 trade embargo and the disruptions caused by the War of 1812. As anyone who has been on the upper reaches of the Providence River can realize, the city's original choice of a harbor location hardly placed it among the first rank of the world's major ports. Much of the land which fronts the present harbor (south of the Hurricane Barrier) did not exist in 1800, being fill land created in connection with subsequent wharf development. Harbor expansion at the present site had to await the filling and dredging operations of the 19th and 20th century. As for the upper river (site of the historic harbor of the 17th, 18th, and early 19th century), it was not particularly deep even then (and now is virtually impassable at low tide even in the smallest of boats). Additionally, until the construction of the Fox Point Hurricane Barrier, it was not well-protected from periodic major storms. Providence's early success as a port city came before the business of international maritime trade was regularized. When the pioneer conditions of the 17th and 18th centuries began to give way to the more prosaic style of 19th century trade, the innovative style and daring of the early Providence merchant families was no longer as important an asset, and the city lacked other natural advantages to sustain its stature as an international trading center. The War of 1812, by preventing the importation of foreign goods, greatly accelerated the shift of capital from the maritime trade to the infant manufacturing industries which were to become the economic mainstay of 19th century Providence.

The seventh Weybosset Bridge, built after the sixth was destroyed by the Great Storm of 1815, reflected these new realities, being the first fixed-span bridge at the site. This began a consistent downstream movement of the head of navigation on the river to its present location at the Fox Point Hurricane Barrier. The Providence Washington Insurance Company built the next two river bridges (at the approximate site of the current Burnside Bridge). Both were built between 1827 and 1829. Subsequent bridges reflected the city's growing economic prosperity and transportation needs. The eighth Weybosset Bridge was built in 1843, the first Exchange Bridge in 1848, and a narrow rail bridge allowing freight to be carried across the river (at considerable public inconvenience) was added ca. 1850, cutting diagonally across the existing bridge complex. The Union Railroad Company (a passenger street railway) built a depot over the river in 1867 at the site of the current Weybosset Bridge (northerly) Extension, and the City Fire Department erected its main fire station (known as "The Three Ones") on pilings over the river in 1873, at the site of the current Post Office Bridge. In 1875, the first Crawford Street Bridge became the final addition to this mid-century grouping of structures.

By the 1890s, these structures, erected haphazardly, maintained poorly, and largely built of wood, had become a major public nuisance. Traffic congestion was often a problem, and a number of the structures were literally in danger of falling into the river (small chunks of the first Crawford Street Bridge, the last of the wooden structures to be replaced, reportedly continued to drop into the river periodically until it was finally replaced between 1927 and 1930 by the present steel structure). Apparently, the city needed a bridge complex to match its status as a major late-19th century center of heavy and light industry. Between 1892 and 1904, the City Engineer's Department designed and supervised the construction of an entirely new complex of bridges. Walls, piers and abutments were replaced from the confluence of the Moshassuck and Woonasquatucket rivers to the south end of the Crawford Street Bridge (although, as noted, that particular bridge, along its associated wooden piers, was not replaced until 1930). Five bridges were completed during an eleven-year period of intense activity: the Burnside Bridge (1893), replacing the Washington Bridge (1829), the Washington Row Bridge (1895), replacing the first Washington Row Bridge (1829), the Exchange Bridge, replacing the first Exchange Bridge (1848), the ninth Weybosset Bridge and its northerly extension (1898), replacing the eighth Weybosset Bridge of 1843, and the Post Office Bridge of 1904, which stood on the site of the "Three Ones" fire station and made the complex continuous from the north end of the Exchange Bridge to the south end of the Crawford Street Bridge. The only major alterations made after the completion of the Post Office Bridge in 1904 were the replacement of the Crawford Street Bridge and the rehabilitation project of 1965. The city's street railways died out in the 1920s and 1930s, and the bridge complex now carries only automotive traffic and pedestrians.

Exchange Bridge (1896)

This is the northernmost bridge in the complex. When it was built, the "Three Ones" fire station, erected on wooden pilings over the river, stood between it and the Burnside Bridge to the south. The fire station was removed in 1902 and replaced by the Post Office Bridge, closing the last gap in the bridge complex.

The wooden structure which preceded the extant Exchange Bridge was the first on the site. It was built in 1848. By 1890, it was in poor condition. In that year, the DPW's annual report on bridges complained that it had "about reached the limits of safety," and called for "immediate arrangements" for an "entire rebuilding" of the span. The following year, similar complaints were voiced. That year's report noted that "no important repairs have been made (but) the process of depreciation and decay has gone steadily forward." Probably because the nearby Washington Bridge (replaced by the Burnside Bridge) was in even more precarious condition, its replacement was undertaken first. In the annual report for 1893, the DPW tentatively pledged to try to keep the Exchange Bridge open until work on the new Washington/Burnside Bridge could be completed.

Finally, in 1894, the City Council asked the City Engineer to draw up plans for a new Exchange Bridge. These plans were approved under City Council Resolution No. 346 of July 10, 1895. John B. Reilly of Trenton, New Jersey, bid \$33,012.00 and received the contract for piers and abutments on July 24, 1895. The steel superstructure of the bridge was fabricated and erected by the Norton Iron Company of East Everett, Massachusetts. Their bid of \$23,576.31 was approved on September 19, 1895. Piers and abutments were completed by the spring of 1896, and the bridge was completed and opened for travel on October 1, 1896.

Since this is the most interesting of the bridges extant at the site, we will quote in full the original description of the work published in that year's DPW Report on Bridges. Construction details on all the turn-of-the-century bridges were fairly similar, so this passage can also be taken (with the exception of the decorative lattice girders) as a fairly accurate general description of any of these structures:

"The abutments are of quarry-faced ashlar, laid in cement mortar, eight feet thick at the bottom, and decreasing by offsets to the top to four feet in thickness. The foundations consist of four rows of piles, capped at right angles to the line of the wall, and upon the caps is placed a platform of eight-inch by twelve-inch hemlock,, running lengthwise with the wall. The space around the heads of the piles, for a depth of two feet below the platform, is filled solid with concrete. The foundations

are well protected by rip-rap from washing. The three piers, which divide the channel into four spans or openings of thirty-one feet, three inches each, are of roughly pointed granite masonry, laid in Portland cement mortar, in courses varying from twenty-two inches to eighteen inches. The piers have been made as thin as the requirements of strength would permit, and the exposed surfaces roughly pointed in order that there should be the least obstruction to the flow of water in the channel, which was made as narrow as safety would allow to save expense in bridging.

The superstructure, which is of steel throughout, was built by the Norton Iron Company, from designs made by, and the work of construction done under the supervision of the City Engineer's Department, and consists of five lines of plate girders about three feet, ten inches deep, and two lines of latticed girders with curved lower chords, the latter being of ornamental design and forming the outside finish on the sides of the bridge. These main girders carry the transverse floor beams, spaced eight feet apart, and upon which rests the trough shaped steel flooring. The steel flooring is leveled up with Portland cement concrete, upon which is placed a wearing surface of asphalt two inches thick on the driveway and one inch thick on the sidewalks. (DPW Report on Bridges for 1896, p. 6)

Perhaps the most interesting feature of this bridge is a series of four rolled steel decorated lattice girders at the north end of the structure. Originally, there were two rows of these decorated girders, one at the north end of the bridge and one at the south. They were designed by the Providence City Engineer's Department (this is confirmed by document #025771 on file at the City DPW, a drawing showing the engineer's original compression and tension calculations for the trusswork in the lattice). They were fabricated by the Norton Iron Company of East Everett, Massachusetts, under the direction of Norton's chief engineer, W. B. Douglass. One of these original lattice girders (the easternmost girder on the north side) is still visible from the east bank of the river at the current Post Office parking lot. Three others are hidden behind the modern (1940) Federal Annex Bridge. The southern set of four lattice girders is not in place. Apparently, there were removed in 1904, when the adjoining Post Office Bridge was built. There is no direct documentary evidence for this date, but it can be deduced from existing records. We know that the girders are not there now (by visual inspection), but we know that they were there in 1896. The 1965 rehabilitation plans drawn up by Charles A. Maquire and Associates indicate that no major girders at that location were replaced in connection with that work and we also know that no major work was done on the Exchange Bridge between 1896 and 1965, with the single exception of the work required to join it to the Post Office Bridge

in 1904. Taking all this into account, it appears that the southern set of girders was removed in 1904.

Referred to as lattice girders in all city documents, these structural members have a curved lower chord and a straight upper chord. The webbing between the two chords is made up of steel lattice trusswork. Individual structural pieces (both the upper and lower chords and the truss members) are formed of rolled steel sections fastened with 3/4" rivets. Many of the rivets are countersunk to preserve the smooth lines of the lattice face. Originally, each lattice girder consisted of 18 diagonals and 8 verticals of varying length, each formed from two pieces of rolled 1/2" steel plate with a T cross-section riveted together. The upper and lower chords of the bridge were each formed by riveting two full-length pieces of an L cross-section fabricated from 9/16" rolled steel plate. As noted above, the original span of each of the eight arches was 31 feet and 3 inches, with a maximum rise at the center of the girder of 2 feet and 3-1/4 inches. During a 1904 widening of the bridge undertaken by Lewis F. Shoemaker and Company of the Schuylkill Bridge Works in Philadelphia, Pennsylvania, two of the extant northerly girders were lengthened by cutting them in the field and adding extra structural members. The span of these girders was increased by approximately 7 feet per girder. The 1904 work was consistent with the original architectural character of the girders.

The decoration on the girders originally consisted of four elements:

- 1) Cast iron rosettes attached to the outside faces of the truss intersections by means of countersunk bolts.
- 2) Decorative cast iron pilasters which covered the joints between adjacent trusses on the three river piers (there were no pilasters at the abutments).
- 3) Decorative rolled steel moldings applied to the curved lower chords.
- 4) Decorative moldings of complex design (described below) applied to the upper straight chords and the lip of the bridge deck.

The overall condition of these decorative elements is as follows:

Cast-iron rosettes: These are in good condition on the four remaining girders and remain in their original positions at the truss intersections.

Cast iron pilasters: no longer extant.

Upper chord and deck decorative molding: no longer extant.

Lower chord moldings: badly deteriorated. As is visible in photographs of the single visible girder, these moldings are extensively perforated by rust. Additionally, they have cracked in places and whole sections are missing from some girders.

Description of decorative features:

1) Cast iron rosettes: since the shape and design of these rosettes is extremely complex, those interested in the details of design should examine our photographs or the copies of original drawings. In general, they are square in shape, but where the corners of a square would ordinarily be, the rosettes have concave circular indentations (resembling "bites" taken out of the square at its corners). The rosettes along the upper and lower chords, as well as those at the abutments are of a different overall shape, being simple sections of a circle. The stylized circular floral pattern on the face of the rosette is identical in all cases.

(2) Cast iron pilasters: These were originally bolted to the outside faces of the three river piers on both the north and south ends of the bridge. Their purpose in the original design was to conceal the joints between adjoining trusses. They formed part of an architectural veneer designed to conceal the structural details of the girders. Now that they are absent, the raised rivets of the girder ends are plainly visible, in contrast with the florid ornamentation which still characterizes the other portions of the girders. In original form and detail, these pilasters were attractive but not remarkable. Those on the center pier differed slightly in dimensions from those on the two side piers, but they were roughly six feet in height, about two and one-half feet wide at their widest point, and essentially semi-circular in cross section. They were attached to the structure with bolts. They were formed of 3/8" cast iron. Both the pilasters and the rosettes appear to have been custom-fabricated from designs drawn by the City Engineer's Department. Custom fabrication of cast iron artifacts in small quantities is a costly proposition (due to the expense of making the patterns which are used to form the molds into which the molten iron is poured), but in the case of the Exchange Bridge, all available drawings and documentation seem to indicate that these parts were made to the City Engineer's specifications, rather than selected from a catalog of cast iron forms. When other work on the bridge did require catalog items, suppliers were referred to on the linen drawings. This was not done in the case of the pilasters and the rosettes. In addition, some of the working drawings on file at Providence City DPW go into extreme detail in relation to these items, an unlikely exercise if they were merely being selected from a foundry catalog. It is not believed that

the custom fabrication of these parts would have been inconsistent with the overall nature of the bridge complex. Work on all of the turn of the century bridges studied, even where prosaic, reflects the prosperity and confidence of Providence at the end of the 19th century, as well as the competence and professionalism of the City Engineer's Department.

3) Lower chord decorative moldings: These are not particularly interesting in design or fabrication. They basically comprise a fascia plate which conceals the curved lower chord. Their shape in cross-section is basically a "C," with the conclave hollow in the center of the C being cupped around the lattice chord.

4) Upper chord and deck moldings: If these moldings were extant, they would lend considerable significance to the bridge. Linen drawing #024247 (on file at City DPW) contains an detailed rendering of these features. The cross-section consisted essentially of a straight, downward sloping upper plate riveted to a central convex "knee" of segmental cross-section, which was in turn riveted to a concave bottom member, also of segmental cross-section. This member, along with a small bracket, were secured by bolts to metal support straps placed along the upper lattice chord at three foot intervals. The original suppliers of three of these components are named in the lettering of the linen drawing referred to above. The convex "knee" and the small bracket were both of Carnegie steel, and the concave member, interestingly, is a Phoenix column section.

The Phoenix column, patented by Samuel Reeves in 1862 consists of four flanged wrought-iron segments bolted together, like barrel staves,, to form a cylinder. Phoenix columns provided greater tensile strength than cast-iron columns and were widely used in buildings and bridges by the 1870s. Only one Phoenix column bridge is known to survive in Rhode Island, the 1888 Arkwright Bridge in Coventry, Rhode Island. The designer of the Exchange Bridge used quarter-sections of Phoenix column horizontally, with the inner concave surface exposed, to form the lower part of the deck molding. The flanges of the column sections were used to bolt the molding to the supporting metal straps.

5) Other decorative features: The bridge was originally topped by an ornate metal railing, no longer extant. The hand railing consisted of a 3-inch diameter gas pipe, a feature common to several of the bridges in this complex in their original form. Beneath the hand rail was a lattice work formed by diagonally interlocking metal bars, and beneath that, a metal plate perforated with a stylized floral design. Drawings on file at DPW seem to indicate that this railing was also custom-designed by the City Engineer and fabricated by the Norton Iron Company. When two of the lattice girders were widened in 1904, Lewis F. Shoemaker and Company also fabricated additional railing sections. A few battered cast iron railing stanchions which appear to be original still flank the sidewalk just north of the bridge on the east side

of the river, but if these ever supported an elaborate decorative railing, it is now missing. One of the surviving stanchions (illustrated in our photographs) was apparently the original main corner post for the bridge's northeast corner. Sockets originally designed to receive the members of the decorative railing are still visible. It is difficult to tell when the railings, pilasters, and upper chord and deck moldings were removed, but it appears that these features were removed from the southern end of the bridge when the southern lattice girders were removed in 1904. Since all three of these features essentially formed a unit when connecting bolts and rivets were in place, it is likely that all were removed together. The railing might well have been the first to deteriorate. Since it was by far the most picturesque of the three features, it is unlikely that anyone supervising its removal would have gone to the trouble to re-configure the attaching hardware for the pilasters and moldings in order to allow them to remain in place. Certainly the latest date at which they could have remained in place was 1965. Even though the bridge as a whole was not greatly altered in the 1965 rehabilitation, extensive deck repair and replacement took place along the northern end of the bridge where any surviving railing section would have stood.

COMMENTS: If it were in anything approaching its original state, this bridge would be a significant example of late 19th century small-scale bridge design. Its original appearance exemplified the architectural tastes of the gilded age: technological sophistication combined with florid ornamentation. It contained all the minor features which originally made the other turn-of-the-century bridges in the complex interesting (notably the decorative railings), along with two major features: the possibly unique horizontal placement of Phoenix column sections, and the ornamental lattice girders.

As it now stands, the Exchange Bridge is still an interesting structure, but its value is greatly diminished. As note above, many of its original features are no longer extant. The basic plate girder structure of the bridge is relatively intact, but is of no great historical interest. What remains is one set of four original lattice girders, in a state of decay.

Sources: A number of beautifully detailed original drawings of this bridge are on file at the City of Providence Department of Public Works. Two of these, linen drawings nos. 025033 and 024247, are especially significant. These drawings are currently in surprisingly good condition, and every effort should be made to preserve them archivally. The DPW also has shop drawings, blueprints, and other documents relating to this bridge. Other sources referring to this bridge include annual DPW bridge reports for 1890-96 and 1904, DPW quarterly reports 51, 54, and 55, and the 1965 rehabilitation plans.

The authors are indebted to Victor Darnell, an authority on bridge engineering and history for consultation on the structure and significance of this bridge.

A Note on Sources: A stranger examining the city records of Providence might well conclude that the city had been subjected to repeated saturation bombing. However, this is not a reflection on the competence of current city employees. Wherever the authors of this report went, from the Department of Public Works to City Hall Archives to the Rhode Island State Department of Transportation, state and city employees were helpful, and doing their best to preserve whatever records happen not to have been lost, destroyed, or hopelessly shuffled between World War I and the mid-1970s. Anyone examining the impressively detailed, beautifully printed records from the 1890s which were left in the basement of City Hall to be (quite literally) eaten by rats can only formulate unhappy speculations about the quality of Providence city government during most of the 20th century. If Providence does not immediately make a major effort to inventory, preserve, and organize what remains of its 19th and 20th century city records, it is in danger of becoming a city without a history.

The following is an overview of sources which proved helpful in preparing this report:

Original Plans: With the exception of the plans for the Burnside Bridge, which have been lost by the City of Providence Department of Public Works, a good selection of original drawings exist for all of the bridges in the complex. These drawings are currently stored under relatively good conditions at the Administrative Offices of the DPW. Some of the original linen drawings are of such fine quality that they should be moved to a suitable archival location. Others, while perhaps not quite so aesthetically pleasing, contain important historical information and deserve to be stored in a more suitable location.

1965 Rehabilitation Plans: A complete set of drawings prepared by Charles A. Maquire and Associates is on file at the Rhode Island Department of Transportation. While not as visually impressive as the 1890's linens, these plans are thorough and detailed, and include some engineering specifications and a general plan for completing the work.

City of Providence DPW Records: These are widely scattered, but are available (though it appears that correspondence, bids, and many other records have generally been lost). During the decades before and immediately after the turn of the century, the city published annual bound volumes of city documents. These contain the DPW's annual bridge reports, and are available at City Hall Archives. The Rhode Island Historical Society Library contains a good set of DPW quarterly reports for the late 19th and early 20th century. These were helpful in pinning down finer details (contract dates & amounts, bridge closing and completion dates, etc.). DPW itself retains some annual City Engineer's reports at its administrative offices. These are in danger of being lost and should probably be moved to City Hall Archives.

City Council Records: From the mid-19th century until the present, the city has issued annual bound volumes of City Council resolutions. Information contained in these volumes is not particularly detailed. Much more interesting as a potential source of information are the City Council files. An undetermined number of these now reside in the City Hall Archives in an unorganized and uncataloged state.

Newspapers: Microfilm copies of the Providence Daily Journal and the Providence Evening Bulletin are available at Providence Public Library.

Miscellaneous: Various documents relating to the history of the bridge (including an index of the Journal and Bulletin) can be found in the Rhode Island collection at the Providence Public Library.

Physical Inspection: The authors of this report inspected and photographed all bridge structures from the Providence River, using a canoe, and also examined and photographed them from street level.

Anyone contemplating serious historical research on the city of Providence, should read John Hutchins Cady's The Civic and Architectural Development of Providence: 1636-1950 (Providence: The Book Shop, 1957). Unfortunately out of print, this volume is available at the Providence Public Library. While we relied on it for few specific details, its contribution to our understanding of the process that created Providence and its bridges was considerable.

PROVIDENCE RIVER BRIDGES: A TIMELINE

1660	1st Weybosset Bridge built
16??	1st Weybosset Bridge falls into disrepair, is torn down
1711	2nd Weybosset Bridge built
1719 ca.	2nd Weybosset Bridge damaged by spring flood, replaced by 3rd
1744-46	4th Weybosset Bridge built, Market Square developed at its east end
1761	Storm destroys 4th Weybosset Bridge
1764	5th Weybosset Bridge built with funds raised through colonial lottery
1792	6th Weybosset Bridge built, fill behind abutment walls creates new shoreline on both banks
1815	Great Storm destroys 6th Weybosset Bridge, which is replaced by 7th (the first fixed-span bridge), completed in 1817
1827-29	Cove St. Bridge (a.k.a. Washington Bridge) and first Washington Row Bridge built by Providence Washington Insurance Company
1843	8th Weybosset Bridge built
1848	1st Exchange Bridge built
1850 ca.	Narrow railroad bridge built diagonally across structures then extant. Tracks were found on the bridge complex until well into the 20th century, but this structure apparently did not survive the 1890s
1867	Union Railroad Company (street railway) builds depot at junction of Weybosset and Washington Row Bridges (removed 1897)
1870	Crawford St. Bridge first seriously proposed, was to include a large covered public market

1873	The "Three Ones" fire station built on pilings over the river at present site of Post Office Bridge (removed 1902)
1875	Crawford St. Bridge completed, without market building
1892-1904	Retaining walls, piers, and abutments replaced from confluence of rivers to south end of Crawford St. Bridge
1893	New Washington Bridge completed, name changed to Burnside Bridge 1894
1895	2nd Washington Row Bridge completed
1896	2nd Exchange Bridge completed
1898	9th Weybosset Bridge completed
1904	Post Office Bridge completed, filling the last gap in the complex
1927-30	2nd Crawford St. Bridge built, Weybosset Bridge repaired
1965	Extensive rehabilitation gives bridge complex its approximate current appearance